Reaching Those in Need:

STATE FOOD STAMP PARTICIPATION RATES IN 1999

The Food Stamp Program is a central component of American policy to alleviate hunger and poverty. The program's main purpose is "to permit low-income households to obtain a more nutritious diet . . . by increasing their purchasing power" (Food Stamp Act of 1977, as amended). The Food Stamp Program is the largest of the domestic food and nutrition assistance programs administered by the U.S. Department of Agriculture's Food and Nutrition Service. During fiscal year 2001, the program served over 17 million people in an average month at a total annual cost of nearly $16 billion in benefits. The average monthly food stamp benefit was about $170 per household.

Although the costs of the Food Stamp Program and other assistance programs are scrutinized during federal budget debates, the Government Performance and Results Act calls for policymakers to pay close attention to the effects of programs, not just total dollars spent. One important measure of a program's performance is its ability to reach its target population. The national food stamp participation rate—the percentage of eligible people in the United States who actually participate in the program—has been a standard for assessing performance for over 15 years. Recent studies have also examined participation rates for socioeconomic and demographic subgroups of the national population (Rosso 2001) and rates for States (Schirm 2001b). The Food and Nutrition Service's Strategic Plan for 2000 to 2005 calls for continued monitoring and includes a performance target to "increase the rate of . . .

program participation among eligible people."

This document presents estimates of food stamp participation rates for States as of September 1999 and estimates of how rates changed between September 1994 and September 1999. These estimates can be used to assess recent program performance, determine whether performance has been improving or deteriorating, and focus efforts to improve performance.

Participation Rates in 1999

In September 1999, about 57 percent of eligible people in the United States received food stamps. Participation rates varied widely from State to State, however, with some rates under 50 percent and some over 70 percent. Nineteen States had rates that were significantly higher (in a statistical sense) than the national rate, and 12 States had rates that were significantly lower. Among the regions, the Mid-Atlantic had the highest participation rate. Its 64 percent rate was significantly higher than the rates for all of the other regions. The Western Region had the lowest rate, at 51 percent. This rate was six percentage points below the national rate and significantly lower than any other regional rate. (See the last page for a map showing regional boundaries.)

Changes Since 1994

Nationwide, the food stamp participation rate fell by 17 percentage points between September 1994 and September 1999. Rates fell in every region of the country and most States. For 41 States, the 1999 rate was significantly lower than the 1994 rate, and the decline in each State's rate was at least six percentage points. Only in the District of Columbia was the rate significantly higher in 1999 than in 1994. For every region, the participation rate fell significantly, and the decline was at least 13 percentage points over the five-year period.

Many factors have contributed to the decline in food stamp participation rates, although how much each factor has contributed is uncertain. Potentially important factors identified in recent research include changes in food stamp eligibility rules and confusion about those changes; confusion about food stamp eligibility among recipients who became ineligible for welfare; and changes in households' eligibility, perceived need for benefits, or willingness to participate attributable to expanding job opportunities in the strong economy and welfare reform's emphasis on work (see, for example, U.S. Department of Agriculture 2001). Ongoing research sponsored by the U.S. Department of Agriculture is also examining how practices in local welfare and food

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Participation Rates

	1994	1995	1996	1997	1998	1999
Alabama	69%	63%	68%	61%	61%	62%
Alaska	82%	80%	77%	82%	79%	74%
Arizona	81%	66%	62%	54%	48%	48%
Arkansas	65%	54%	61%	54%	62%	66%
California	66%	67%	66%	61%	53%	49%
Colorado	70%	64%	61%	56%	55%	49%
Connecticut	67%	74%	64%	63%	63%	58%
Delaware	74%	74%	69%	68%	58%	52%
District of Columbia	64%	73%	70%	85%	90%	100%
Florida	70%	64%	64%	56%	52%	53%
Georgia	74%	74%	68%	59%	57%	55%
Hawaii	93%	100%	90%	100%	99%	100%
Idaho	63%	58%	59%	50%	47%	45%
Illinois	77%	78%	71%	74%	68%	66%
Indiana	80%	75%	71%	67%	63%	60%
Iowa	73%	68%	64%	62%	59%	56%
Kansas	65%	64%	60%	54%	49%	43%
Kentucky	77%	77%	73%	70%	69%	75%
Louisiana	78%	70%	70%	66%	69%	74%
Maine	89%	93%	85%	86%	82%	80%
Maryland	72%	78%	69%	69%	67%	55%
Massachusetts	69%	66%	62%	49%	50%	43%
Michigan	82%	82%	75%	75%	72%	65%
Minnesota	73%	73%	67%	59%	58%	55%
Mississippi	81%	73%	75%	67%	57%	61%
Missouri	80%	80%	74%	67%	66%	69%
Montana	70%	57%	57%	61%	58%	58%
Nebraska	73%	66%	61%	66%	66%	60%
Nevada	62%	61%	57%	46%	43%	35%
New Hampshire	67%	71%	64%	52%	46%	46%
New Jersey	69%	77%	68%	62%	60%	56%
New Mexico	77%	65%	65%	62%	64%	64%
New York	76%	77%	71%	65%	60%	62%
North Carolina	63%	62%	66%	57%	52%	53%
North Dakota	69%	60%	59%	58%	56%	55%
Ohio	81%	80%	70%	69%	59%	55%
Oklahoma	70%	65%	62%	83%	62%	64%
Oregon	75%	75%	69%	70%	64%	66%
Pennsylvania	82%	85%	77%	76%	71%	67%
Rhode Island	78%	83%	74%	68%	67%	70%
South Carolina	67%	56%	65%	63%	63%	62%
South Dakota	64%	53%	57%	57%	60%	59%
Tennessee	83%	75%	72%	70%	70%	72%
Texas	77%	74%	68%	56%	51%	46%
Utah	78%	74%	69%	62%	59%	55%
Vermont	91%	90%	80%	84%	69%	76%
Virginia	76%	75%	67%	58%	58%	55%
Washington	78%	80%	71%	68%	65%	57%
West Virginia	91%	94%	89%	99%	90%	92%
Wisconsin	72%	68%	61%	53%	50%	48%
Wyoming	71%	62%	63%	55%	55%	50%
Northeast Region	75%	76%	70%	63%	60%	59%
Mid-Atlantic Region	77%	81%	73%	70%	68%	64%
Southeast Region	72%	67%	68%	61%	58%	59%
Midwest Region	79%	78%	70%	69%	64%	60%
Southwest Region	76%	70%	67%	60%	56%	54%
Mountain Plains Region	73%	69%	66%	61%	60%	57%
Western Region	69%	69%	67%	62%	55%	51%
United States	74%	72%	69%	64%	59%	57%

There is substantial uncertainty associated with most of these estimates. Confidence intervals that measure the uncertainty in the estimates for 1994 to 1998 are presented in Schirm and Castner (forthcoming). Those confidence intervals are generally about as wide as the confidence intervals that are presented in this document for the 1999 estimates.

stamp offices have affected food stamp participation. Findings from this research may help to explain why participation rates vary so widely and why rates have declined.

Although the national food stamp participation rate decreased significantly in each year from 1994 to 1999, the recent estimate of 59 percent for September 2000 suggests that the rate may no longer be falling (Cunnyngham, forthcoming). Future national estimates may reveal that the downward trend that began in 1994 was only interrupted in 2000 or that it was reversed.

State Comparisons

All of the estimated participation rates presented here are based on fairly small samples of households in each State. Although there is substantial uncertainty associated with the estimates for some States and with comparisons of estimates from different States, the estimates for 1999 show whether a State's participation rate was probably at the top, at the bottom, or in the middle of the distribution. The District of Columbia, Hawaii, and West Virginia were very likely at the top, with higher rates than the other States. In contrast, Nevada likely had a lower rate than any other State. Kansas, Massachusetts, Idaho, New Hampshire, Texas, Wisconsin, Arizona, California, Colorado, and Wyoming probably fell in the bottom half of the distribution, while Maine, Vermont, Kentucky, Louisiana, Alaska, Tennessee, Rhode Island, Missouri, and Pennsylvania were probably in the top half.

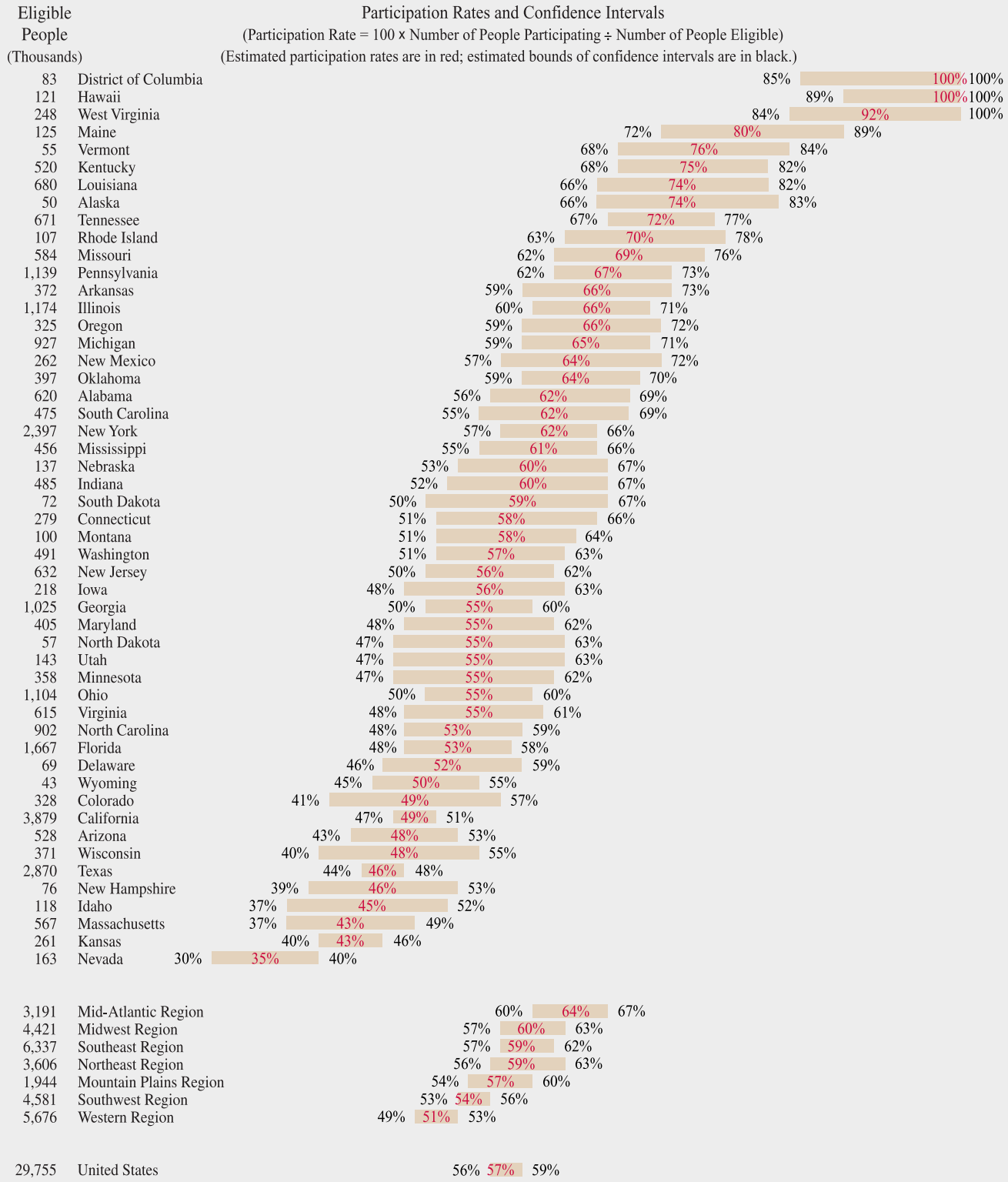
The estimates of changes in participation rates between two years are less precise than the estimates of rates for a single year. Although there is enough uncertainty that even some fairly big differences among States are not statistically significant, the District of Columbia, Hawaii, West Virginia, Arkansas, Kentucky, and Louisiana probably had about the largest increases or smallest decreases in participation rates between 1994 and 1999. Arizona, Texas, Nevada, Ohio, and Massachusetts probably had among the largest decreases.

How a State compares with other States may fluctuate over time due to statistical variability in estimated rates and true changes in rates. The statistical variability is sufficiently great that a large change in a State's rate from the prior year should be interpreted cautiously, as should differences between the rates of that State and other States. It may be incorrect to conclude that program performance in the State has improved or deteriorated dramatically. Despite this uncertainty, the estimated participation rates suggest that some States have fairly consistently been in the top or bottom of the distribution of rates. In at least four of the six years from 1994 to 1999, Hawaii, Maine, Vermont, and West Virginia have had significantly higher participation rates than two-thirds of the States, and Alaska, Michigan, and Pennsylvania have had significantly higher rates than half of the States. Idaho, Kansas, and Nevada have had significantly lower rates than half of the States in at least four of the six years.

Estimation Method

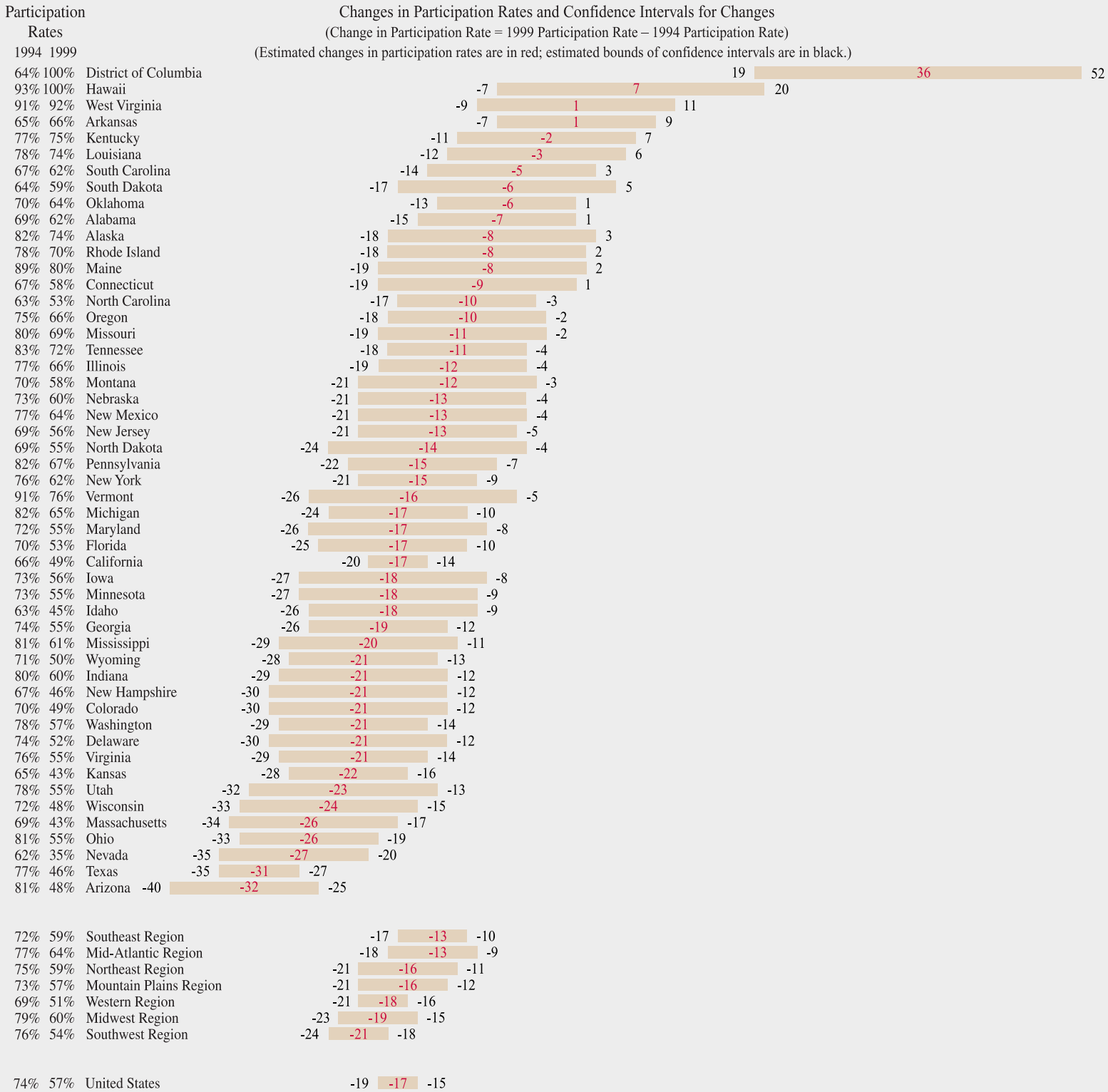
The estimates presented here were derived using shrinkage estimation methods (Schirm 2001a and Schirm and Castner, forthcoming).

How Many Were Eligible in September 1999? What Percentage Participated?



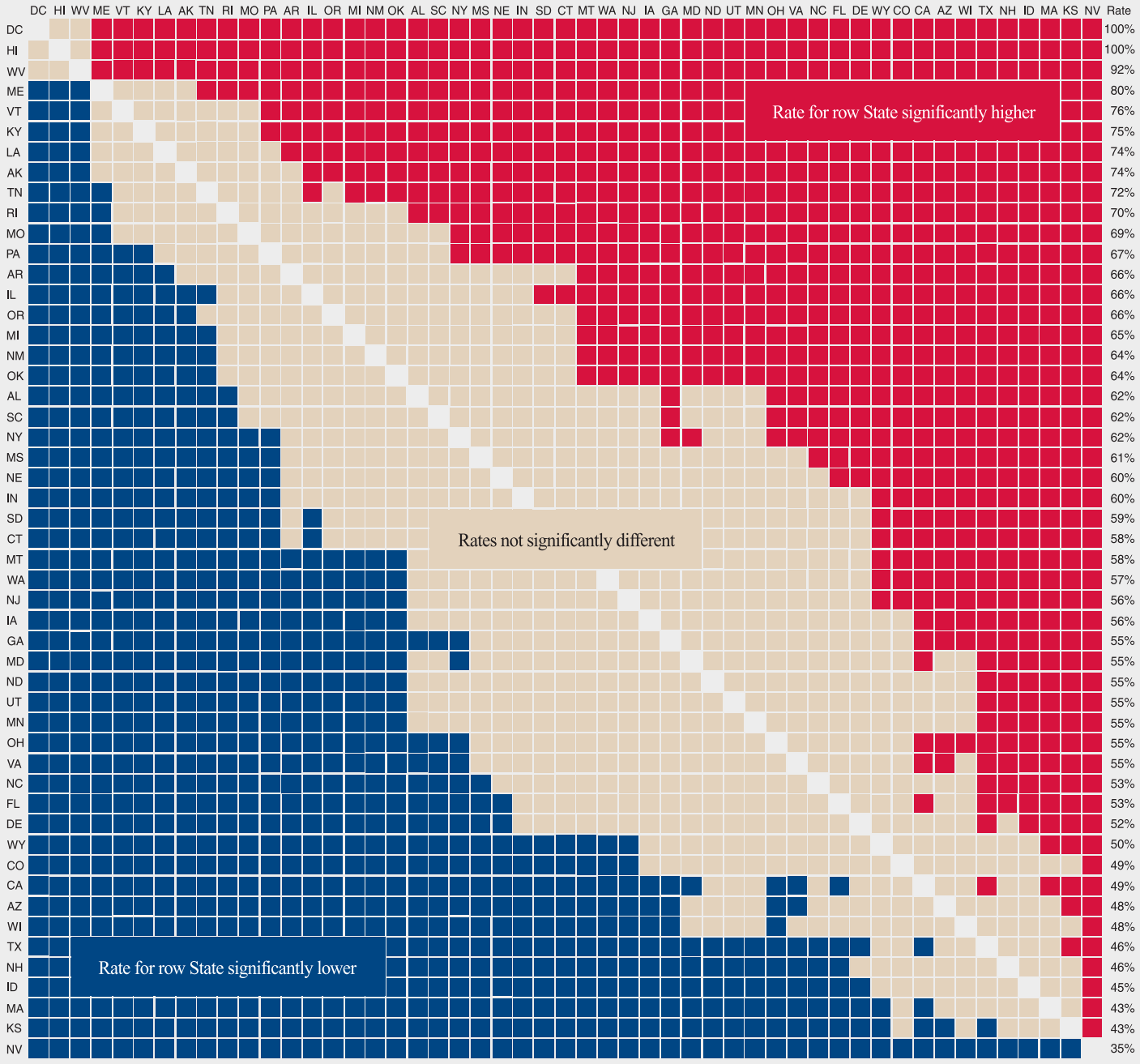
A confidence interval expresses our uncertainty about the true value of a participation rate. Each interval displayed here is a 90 percent confidence interval. One interpretation of such an interval is that there is a 90 percent chance that the true participation rate falls within the estimated bounds. For example, while our best estimate is that Nebraska's participation rate was 60 percent in September 1999, the true rate may have been higher or lower. However, the chances are 90 in 100 that the true rate was between 53 and 67 percent.

How Did Participation Rates Change Between September 1994 and September 1999?



Each interval displayed here is a 90 percent confidence interval. One interpretation of such an interval is that there is a 90 percent chance that the true change in the participation rate falls within the estimated bounds. Differences between the estimated changes in red and the values obtained by subtracting the 1994 rates at the left of the page from the adjacent 1999 rates are due to rounding.

How Did Your State Compare with Other States in September 1999?



Whether one State has a significantly higher participation rate than a second State can be determined from this figure by finding the row for the first State at the left of the figure and the column for the second State at the top of the figure. If the box where the row and column intersect is red, there is at least a 90 percent chance that the first State (the row State) has a higher true participation rate. If the box is blue, there is at least a 90 percent chance that the second State (the column State) has a higher true participation rate. Equivalently, there is less than a 10 percent chance that the first State has a higher rate. If the box is tan, there is more than a 10 percent chance but less than a 90 percent chance that the first State has a higher rate; thus, we conclude that neither estimated rate is significantly higher.

Taking Connecticut, the State in the middle of the distribution, as an example, we see that it has a significantly lower participation rate than 13 other States (the District of Columbia, Hawaii, West Virginia, Maine, Vermont, Kentucky, Louisiana, Alaska, Tennessee, Rhode Island, Missouri, Pennsylvania, and Illinois) and a significantly higher rate than 11 other States (Wyoming, Colorado, California, Arizona, Wisconsin, Texas, New Hampshire, Idaho, Massachusetts, Kansas, and Nevada). Its rate is neither significantly higher nor significantly lower than the rates for the other 26 States, suggesting that Connecticut is probably in the broad center of the distribution, unlike, for example, the District of Columbia and Nevada, which are surely at or near the top and bottom of the distribution, respectively. Although we use the statistical definition of "significance" here, most of the significant differences are at least ten percentage points, and all but three of them are at least five percentage points, a difference that seems important as well as significant.

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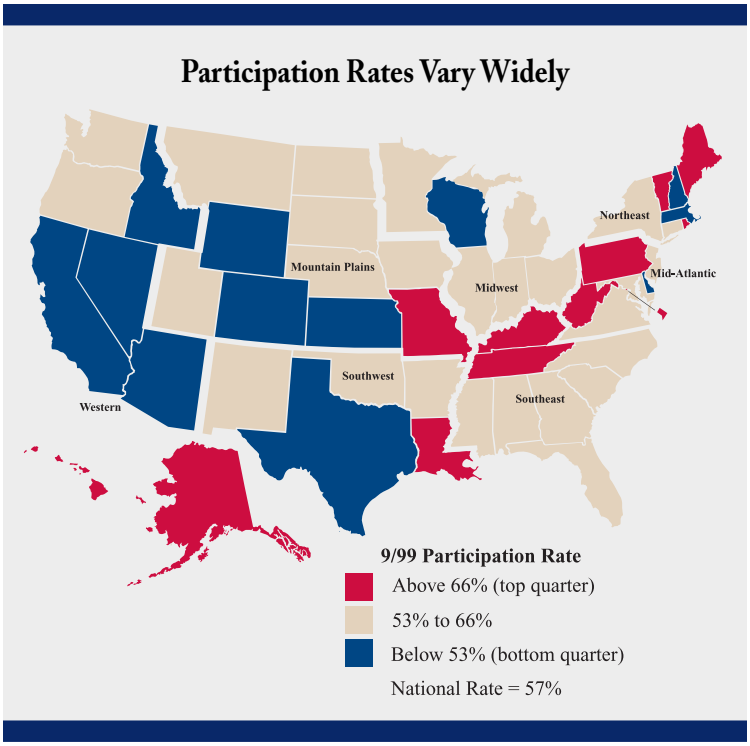
Drawing on data from the Current Population Survey, the decennial census, and administrative records, the shrinkage estimator averaged sample estimates of participation rates with predictions from a regression model. The predictions were based on observed indicators of socioeconomic conditions, such as per capita income and the percentage of the total State population receiving food stamps. Shrinkage estimates are substantially more precise than direct sample estimates from the Current Population Survey or the Survey of Income and Program Participation, the leading sources of current data on household incomes and program eligibility. Because these surveys do not collect data on participation in the Food Distribution Program on Indian Reservations, the estimates presented here are not adjusted to reflect the fact that participants in that program are not eligible to receive food stamps at the same time (Rosso 2001). The effects of such adjustments would generally be negligible.

The shrinkage estimates of participation rates for 1994 to 1998 presented here differ from the estimates in Schirm (2001a and 2001b). The differences are due to improvements in data and methods, which are described in Rosso (2001) and Schirm and Castner (forthcoming). One improvement is that data for 1999 were available and were used with previously available data to derive estimates for the earlier years. The 1999 data were used because socioeconomic conditions in one year are related to conditions in other years—both earlier and later. Thus, the shrinkage estimator uses data for all of the years for which estimates are sought to obtain the most accurate estimates for each year and for changes between years.



Before 1999 data became available, 1998 data were the most recent data used in deriving estimates for 1994 to 1998. When 1999 data became available, they were used to derive the first estimates for 1999 and revised estimates for 1994 to 1998. In the future, the estimates presented here will be revised—and improved—using data for 2000 and subsequent years.

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